H:A

Notice of Allowability	Application No.	Applicant(s)	
	10/642,737	KARASAWA ET AL.	
	Examiner	Art Unit	
	Pamela E. Perkins	2822	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the amendment filed on 29 July 2005*.

2. ☒ The allowed claim(s) is/are *1-57*.

3. ☒ The drawings filed on *19 May 2004* are accepted by the Examiner.

4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 6/24/05
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Michael Trinh
Primary Examiner

DETAILED ACTION

This office action is in response to the filing of the amendment on 7 July 2005. Claims 1-57 are pending; claims 58 and 59 have been canceled.

Allowable Subject Matter

Claims 1-57 are allowed.

Reasons for Allowance

The following is an examiner's statement of reasons for allowance: prior art does not anticipate, teach, or suggest a method of manufacturing a semiconductor device where a protrusion is formed on a semiconductor substrate having a first area and a second area surrounding the first area, the protrusion protruding above the first area; disposing a support on a surface of the semiconductor substrate on which the protrusion is formed, so that a through hole of the support overlaps with the first area and the protrusion is set in an opening of the through hole; and grinding the semiconductor substrate from a surface opposite to the surface on which the protrusion is formed.

For example, Ohuchi et al. (6,353,267) disclose a method of manufacturing a semiconductor device where a protrusion is formed on a semiconductor substrate having a first area, the protrusion protruding above the first area; disposing a resin layer on a first area of a semiconductor substrate; disposing a through hole overlapping the first area; and grinding the semiconductor substrate from a surface opposite to the

surface on which the protrusion is formed. However, Ohuchi et al. do not disclose, anticipate, teach, or suggest forming at least one protrusion in a through hole.

Sahara et al. (6,713,880) disclose a method of manufacturing a semiconductor device where a protrusion is formed on a semiconductor substrate having a first area and a second area surrounding the first area, the protrusion protruding above the first area; disposing a resin layer on a first area of the semiconductor substrate; and disposing a support on a surface of the semiconductor substrate on which the protrusion is formed, a part of the support overlapping with the second area being thicker than another part of the support overlapping with the first area. However, Sahara et al. do not disclose, anticipate, teach or suggest forming at least one protrusion in a through hole.

The prior art made of record in this action does not anticipate, teach, or suggest a method of manufacturing a semiconductor device where a protrusion is formed on a semiconductor substrate having a first area and a second area surrounding the first area, the protrusion protruding above the first area; disposing a support on a surface of the semiconductor substrate on which the protrusion is formed, so that a through hole of the support overlaps with the first area and the protrusion is set in an opening of the through hole; and grinding the semiconductor substrate from a surface opposite to the surface on which the protrusion is formed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pamela E. Perkins whose telephone number is (571) 272-1840. The examiner can normally be reached on Monday thru Friday, 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on (571) 272-1852. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PEP

Michael Trinh
Primary Examiner
Act SPE